

## CURRENT LITERATURE.

### Pharmaceutical botany.

For the student of pharmacy two sciences, chemistry and botany, are indispensable. Of the two, chemistry finds the most continuous application, and as a consequence students of pharmacy are given thorough courses in chemistry, pure and applied. But the botany has always suffered, and attempts are numerous to produce in the form of a text-book or a laboratory guide some short cut to what is considered a sufficient knowledge of botany to enable the student to recognize the vegetable drugs. The book before us is a manual of organic materia medica<sup>1</sup> with a prefatory part I entitled *pharmaceutical botany*. It is with this chiefly that we are concerned.

And we remark at the outset that Prof. Sayre's introductory section is out of date. Why should M. C. Cooke's quotation from Lankester (!) on the distinctions between plants and animals be quoted to the extent of half a page when the student is told in a footnote that these are of historic interest but is given no real information on the differences, or rather the resemblances?

The first chapter, miscalled morphology, is an illustrated glossary of the descriptive terms for phanerogams, among which the gymnosperms figure as a "polycotyledonous" division coördinate with di- and monocots.

The second chapter, miscalled structural botany, treats of the histology of vascular plants, with special reference, it is said, to the needs of the student of pharmacognosy. While the first chapter was an inadequate account of the organs of the higher plants, the second is really ridiculous as an introduction to their histology, illustrated as it is with the antiquated—for the year 1895 the grotesque—figures from Bentley's Manual of Botany. The chapter covers 35 pages in all, of which 5½ are devoted to starches, while the remaining cell contents are treated in 3 pages; forms of cells in 1 page; systems of tissues in half a page; and the anatomy of the stem in 2 pages!

"The cavity left in the cell by its disappearance [this protoplasm becomes assimilated] is called a vacuole." As one method we are

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<sup>1</sup>SAYRE LUCIUS E.:—A manual of organic materia medica and pharmacognosy; an introduction to the study of the vegetable kingdom and the vegetable and animal drugs, comprising the botanical and physical characteristics, source, constituents, and pharmacopœial preparations, with chapters on synthetic organic remedies, insects injurious to drugs, and pharmaceutical botany. 8vo. pp. 555. figs. 543. Philadelphia: P. Blakiston, Son & Co., 1895. \$4.50.

told that "the cell divides by an ingrowth of the cell-wall:" while the only other mode of division is by free cell formation. Glands and secretion reservoirs, structures which one would suppose of great interest to the pharmacist are dismissed in 12 lines. But it is useless to go into further details. Prof. Sayre is undoubtedly competent to write about materia medica, but he is not competent to write about botany, and it is a pity that he undertook to prepare this part of his book, for it is unworthy of the larger special part and of the handsome dress in which the well known publishers have clothed it.

#### A manual of histology.

A new laboratory manual for classes beginning the study of vegetable histology is being perfected and will be issued after a time. It is by Professors M. B. Thomas of Wabash College and W. R. Dudley<sup>1</sup> of Stanford University. It is the outcome of a number of years experience and trial, first in the laboratory of Cornell University and afterward in the institutions with which the authors are now connected. In the division of labor Part I on technique and also the editorial supervision of the whole work has fallen to Prof. Thomas, and Part II on laboratory directions and also the general plan of the whole book to Prof. Dudley.

The aim of the authors is to furnish concise and detailed direction for the elementary study of cells and tissues according to the most approved methods of manipulation. The idea is to lead the student who enters the laboratory, where the microscope and microtome are the chief instruments, through a careful and well-thought-out course of instruction from the handling of a compound microscope to the preparation and examination of serial sections, and to familiarize him with the most common forms of tissues of the vegetative organs of the higher plants. Numerous references are made to standard text-books, that are likely to be found in a well equipped laboratory.

As an aid in teaching the pupil exact methods at the outset of his course, the work is admirably conceived and will doubtless meet with favor. The plates are somewhat lacking in the finish of the drawings and in their arrangement on the page, but are serviceable.

#### A monograph of the Mycetozoa.

If any one imagines that in our abounding zeal for histological and physiological research among the higher plants the investigation of the so-called cryptogamic world is likely to be forgotten, a glance at recent

<sup>1</sup>THOMAS, MASON B. and DUDLEY, WILLIAM R.—A laboratory manual of plant histology. Preliminary edition. The authors, Crawfordsville, 1894. 8vo. 115 pp. 15 pl. \$1.50.

literature will certainly reassure him. To say nothing of bacteriology, which is in itself a science, work in all lines among the lower forms of life was surely never so great as now. Take even that small group of organisms, the mycetozoa, which forms the topic of the volume before us<sup>1</sup> and here we have treating the same subject two monographs in the English language within as many years. These two comprehensive works represent, of course, different collections; but that such works, handsome, costly works, should appear at all is evidence of the universal, cumulative interest lately roused in the organisms of which the volumes treat. The former volume dealt with the collections of Myxogastres, or, as they are familiarly called, slime-molds at Kew; the present volume treats of the collections, equally rich, which have place in the magnificent herbarium of the British Museum. Mr. Lister, the present author, has been long a student of his subject, has had access to all the largest collections, especially American collections, in the world, has the advantage of writing last, and has consequently given us the best account of the slime-molds that has so far appeared: nevertheless it is plain for many reasons that the last word on the subject has not been said. Mr. Lister, adopting De Bary's view of the relationship of the group and following the wavering authority of Rostafinski calls the organisms he discusses *Mycetozoa*. This name was substituted by De Bary for *Myxomycetes* Link, simply to express his view that the organisms in question were animals rather than fungi. Both names are bad on etymological grounds and have the further disadvantage of supplanting the old appellation *Myxogastres* Fries, which has no etymological falsity. Myxogastres ought to stand as it was correctly applied and limited.

In his arrangement Mr. Lister follows Rostafinski; but in almost nothing else; the Polander's species are thoroughly revised and a great many go down as synonyms of each other. In this revision Mr. Lister is not always consistent. For instance: the form familiar to American students as *Clathroptychium rugulosum* (Wallr.) R. is, in the face of Rostafinski's protest, *Sluzowce* p. 225, written down under the generic name *Dictydiaethalium*, adopted under mistaken conception by Rostafinski in his university studies, and committed to Fuckel for publication in *Symbolæ Mycologicae*, 1873. Rostafinski was the first to discover his mistake, and as cited made the necessary corrections, 1874-5, and the name in general use resulted. Under the circumstances it might, one thinks, have been allowed to stand. But, now

<sup>1</sup>LISTER, ARTHUR:—A monograph of the Mycetozoa, being a descriptive catalogue of the species in the herbarium of the British Museum. 8vo. pp. —. pl. 78. figs. 51. London: 1894.

for specific name we must say *D. plumbeum* Rost., though Rostafinski never called the species *plumbeum*! *Plumbea* is the oldest specific name applied to the object, it is true; but it was under an entirely different genus, viz., *Fuligo plumbea* Schum. 1803. According to Mr. Lister's own ruling the species should now be called *D. applanatum* Rost., for that adopts "the first authentic specific name published under the genus in which the species now stands." Whatever we may think of the rule, Mr. Lister does not always observe it. The generic changes are on the whole few. *Ophiotheca* disappears, merged with *Perichæna*, and *Tilmadoche* and *Physarum* are consolidated as they should be. On the other hand we gain a new family, *Margaritaceæ*, to include the genera, *Margarita*, *Dianema*, and *Prototrichia*. The changes in the present volume, as indicated already, come in the way of consolidating species. To make too many species is not good and revision is always in order; but the crowding of too many forms under one specific name is a sin in the opposite direction, induces confusion and will by and by provoke a change. Compare, for instance, *Physarum compressum*, *Physarum berkeleyi*, etc. On the whole the book will be exceedingly useful to students. The little wood-cut sketches will generally aid in the determination of genera and many of the most common species are figured in the plates. These are in the main excellent, reproduced by photographic process from water-color drawings. As a consequence those representing species whose natural colors are black and white are reproduced best. The publication is by the Trustees of the British Museum, and they may well share with the author congratulations on the completion of a beautiful and very successful piece of thoroughly scientific work.—MACB.

#### Minor Notices.

THE FIRST PUBLICATION from the Field Columbian Museum,<sup>1</sup> of Chicago, gives an account of the founding of the museum and a brief description of its present collection, with illustrations. The botanical department is in charge of Dr. C. F. Millspaugh. It occupies the galleries, and is particularly rich in forestry exhibits. No mention is made of the rather large herbarium which forms a part of the collection, but which for obvious reasons can not be displayed. It is encouraging to botanical students that so notable a museum should put botany on an equal footing with zoology and other departments.

DR. ROLAND THAXTER has continued his publications on Laboulbeniaceæ by a recent paper in *Proc. Amer. Acad.* 30: 467. The gen-

<sup>1</sup>Publication I. An historical and descriptive account of the Field Columbian Museum, Chicago, 1894. Vol. 1, no. 1. 91 pp. Illust.

eric name *Acanthomyces* Thaxter is changed to *Rhachomyces* Thaxter on account of preoccupation, and a seventh species added. Two new genera are established, *Diplomyces* and *Eucantharomyces*, and twelve new species are added to *Laboulbenia*. We are informed that twenty-four quarto plates, including 600 figures, illustrating these and all the other Laboulbeniaceae described by Dr. Thaxter, have been completed, and will be published as soon as suitable arrangements can be made. We sincerely hope that a publisher will be secured at an early day.

CAMPBELL'S *Biology*<sup>1</sup> is another one-sided book from the botanist's point of view. There is a chapter on plant tissues, one on plant structure, one on yeast, one on protococcus and glæocapsa, and one on bacteria (together 42 pp.). The rest is almost purely zoological, and seems to be accurate and well-put, though much condensed. The botanical part is good, what there is of it. But the book would be better without such an inadequate treatment of the life-work of plants.

A HANDY VOLUME of about one hundred and twenty pages, in pocket form, dealing with the organic drugs of the United States Pharmacopœia has been compiled by John S. Wright,<sup>2</sup> botanist to the large pharmaceutical establishment of Eli Lilly & Co., of Indianapolis, Ind. Over two hundred and fifty vegetable drugs are treated in a very compact but comprehensive manner. Under each is briefly stated the name, source of the drug, character of the plant, range and habitat, constituents of the drug, properties, dose and preparation. The non-pharmaceutical student would have been glad of an index. The work bears evidence of careful preparation. It is well printed and bound, and must serve a useful purpose. It is distributed by the firm, to whom application may be made, or to the author.

<sup>1</sup>CAMPBELL, H. J.:—Text book of elementary biology. 8 vo. pp. xii+284. figs. 136. London: Swan Sonnenschein & Co. [New York: Macmillan & Co.] 1893.

<sup>2</sup>WRIGHT, JOHN S.:—A guide to the organic drugs of the United States Pharmacopœia, 1890, containing, in addition to the brief account of organic drugs, a conspectus of the natural orders of plants mentioned, and glossaries of the botanical and medical terms used. Narrow 16 mo. pp. 118. Eli Lilly & Co., Indianapolis, 1895.